NOTE: The document identifier and heading has been changed on this page to reflect that this is a performance specification. There are no other changes to this document. The document identifier on subsequent pages has not been changed, but will be changed the next time this document is revised.

MIL-PRF-39012/24C
7 February 1985
SUPERSEDING
MIL-C-39012/24B
17 September 1982

PERFORMANCE SPECIFICATION

CONNECTORS, RECEPTACLE, ELECTRICAL, COAXIAL, RADIO FREQUENCY
(SERIES BNC (UNCABLED) - FEMALE, HERMETIC SEALED,
JAM NUT MOUNTED, CLASS 2)

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The complete requirements for acquiring the connectors described herein shall consist of this specification and the latest issue of MIL-PRF-39012.

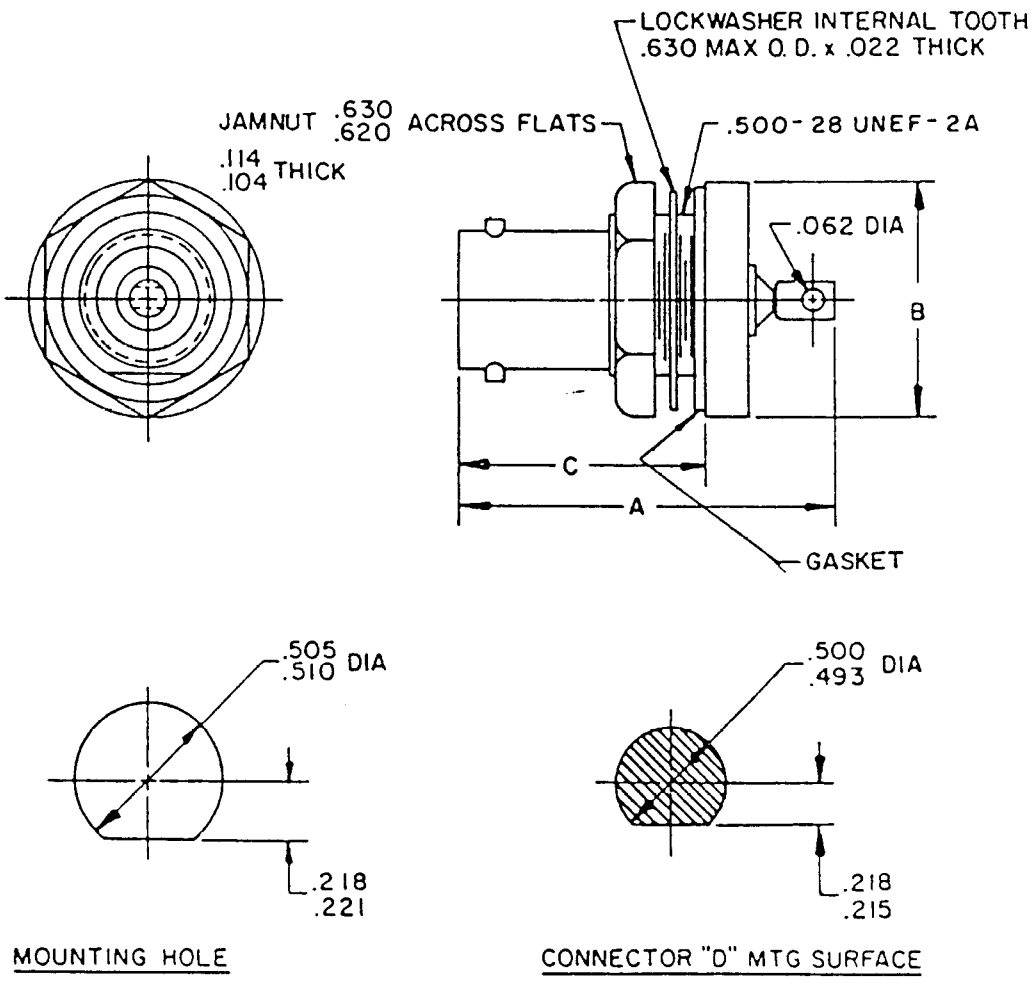

FIGURE 1. General configuration.

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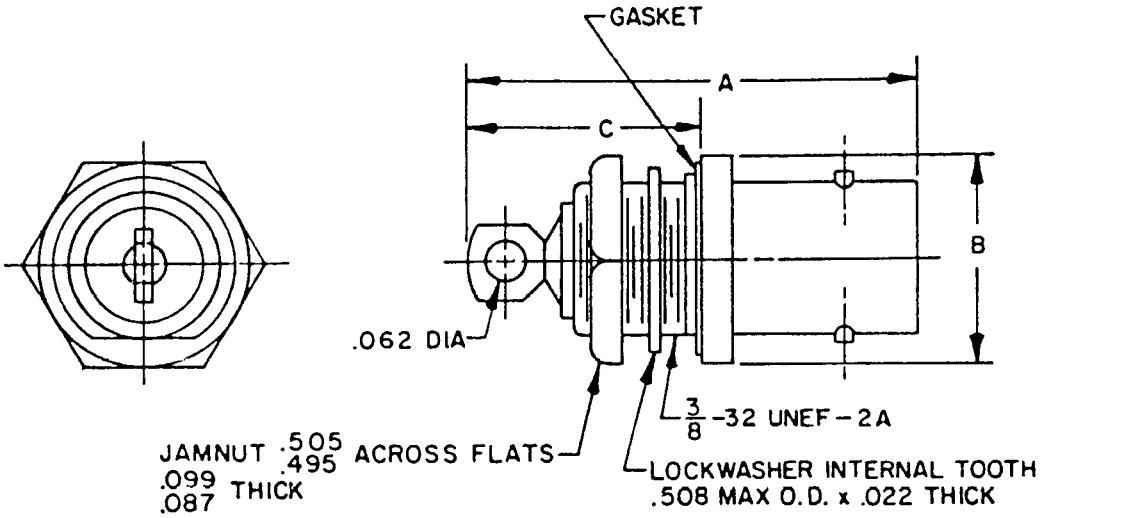
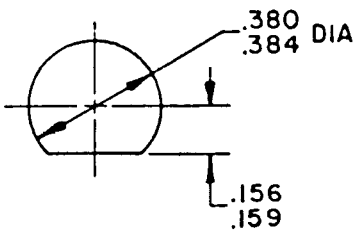
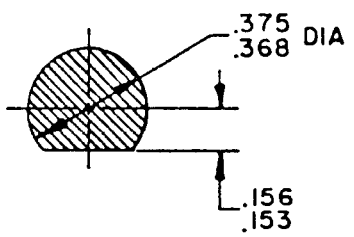




MOUNTING HOLE



CONNECTOR "D" MTG SURFACE

M39012/24-0002

INCHES	MM	INCHES	MM
.022	.56	.368	9.35
.062	1.57	.375	9.53
.087	2.21	.380	9.65
.099	2.51	.384	9.75
.104	2.64	.493	12.52
.114	2.90	.495	12.57
.153	3.89	.500	12.70
.156	3.96	.505	12.83
.159	4.04	.508	12.90
.215	5.46	.510	12.95
.218	5.54	.620	15.75
.221	5.61	.630	16.00

NOTES:

1. Dimensions are in inches.
2. For dimensions 'A', 'B', 'C', see table I.
3. Dimension 'B' is the largest overall diameter of the connector.
4. Metric equivalents are given for general information only.
5. Orientation of the mounting flats and bayonet studs shall be within ±3° of the orientation shown.
6. All undimensioned pictorial representations are for reference purposes only.

FIGURE 1. General configuration - continued.

TABLE I. Dash number and overall dimensions.

Part number 1/	Dim	Inches - Millimeters 2/		Panel thickness	
		Minimum	Maximum	Minimum	Maximum
M39012/24-0001	A	---	1.343 (34.11)	.045 (1.14)	.260 (6.60)
	B	.684 (17.37)	.692 (17.58)		
	C	.813 (20.65)	.843 (21.41)		
M39012/24-0002	A	---	1.328 (33.73)	.045 (1.14)	.260 (6.60)
	B	.590 (14.99)	.600 (15.24)		
	C	.650 (16.51)	.730 (18.54)		

1/ For cross reference of dash number to superseded part number or type designation see table III.

2/ Millimeters are in parentheses.

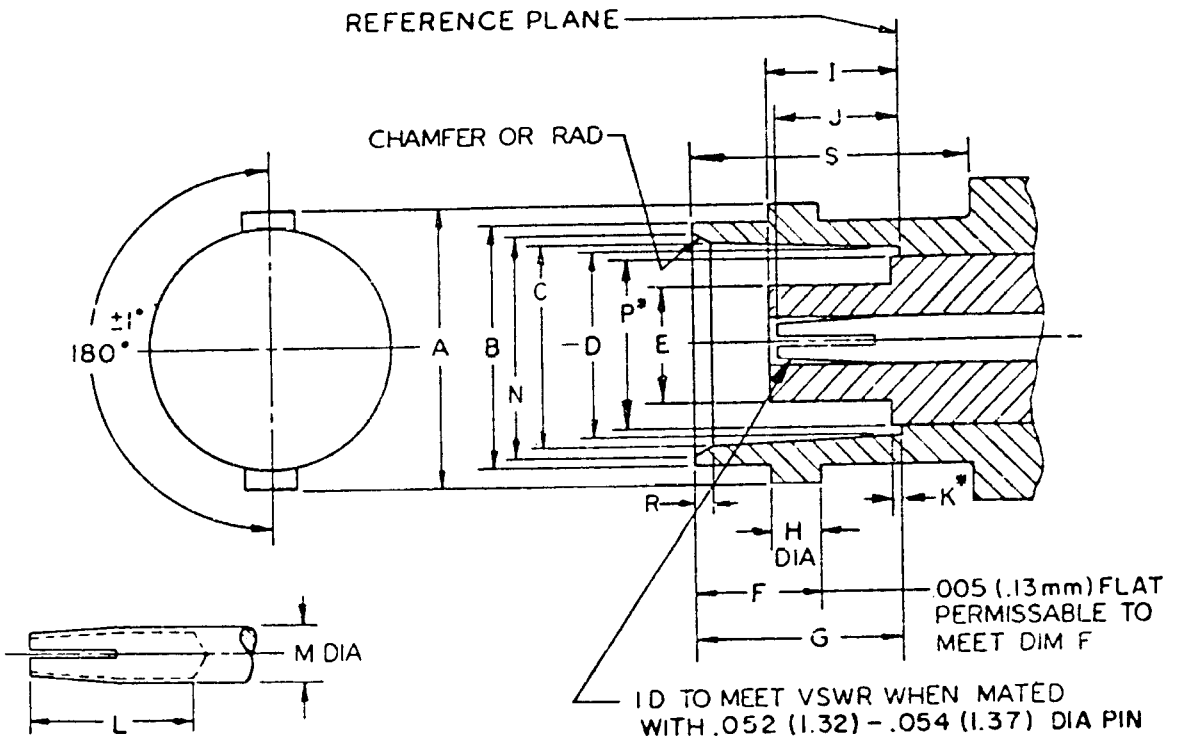
TABLE II. Group qualification.

Group	Submission and qualification of any of the following connectors	Qualifies the following connectors
I	M39012/24-0001 M39012/24-0002	M39012/24-0001 M39012/24-0002

TABLE III. Cross reference of part numbers.

Part number	Substitute for type 1/ designation
M39012/24-0001	UG-911/U
M39012/24-0002	UG-912/U

1/ The superseded part number or the type designation is for cross reference only. The part number M39012/24-XXXX shall be used in all cases for marking and identifying the connectors.



Ltr	Dimensions in inches with metric equivalents (mm) in parentheses	
	Minimum	Maximum
A	.432 (10.97)	.436 (11.07)
B	.378 (9.60)	.382 (9.70)
C	.327 (8.31)	.333 (8.46)
D	.319 (8.10)	.321 (8.15)
E		.186 (4.72)
F	.204 (5.18)	.208 (5.28)
G	.327 (8.31)	.335 (8.51)
H	.075 (1.91)	.081 (2.06)
I		.208 (5.28)
J		.206 (5.23)
K*		.006 (.15)
L	.195 (4.95)	
M	.081 (2.06)	.087 (2.21)
N	.346 (8.79)	.356 (9.04)
P*		.256 (6.50)
R	.015 (.38)	.030 (.76)
S	.414 (10.52)	

P dimension applies to that portion (if applicable) of dielectric which extends beyond reference plane by dimension K.

NOTES:
1. Metric equivalents are given for general information only.
2. Concave depression .100 (2.54 mm) X .005 (.13 mm) deep between studs permissible.

FIGURE 2. Mating dimensions for female terminations.

ENGINEERING DATA:

Nominal impedance: 50 ohms.

Frequency range: 0 to 4,000 MHz.

Voltage rating: 500 volts rms maximum working voltage at sea level. 125 volts rms maximum at 70,000 feet.

Temperature rating: -55°C to +165°C.

REQUIREMENTS:

Design and construction: See figure 1.

Center contacts: 4 pounds minimum axial force. 4 inch-ounces minimum radial torque.

Force to engage and disengage:

Longitudinal force - 3 pounds maximum.

Torque - 2-1/2 inch-pounds maximum.

Coupling mechanism retention force: Not applicable.

Mating characteristics: See figure 2 for dimensions.

Contacts with spring members:

Center contact (female):

Oversize test pin - .057 diameter minimum (nonclosed entry contacts only).

Insertion depth - .125 minimum.

Number of insertions - 1.

Insertion force test - Steel test pin diameter - .054 minimum.

Test pin finish - 16 microinches.

Insertion force - 2 pounds maximum.

Withdrawal force test - Steel test pin diameter - .052 maximum.

Withdrawal force - 2 ounces minimum.

Test pin finish - 16 microinches.

Hermetic seal: Leakage shall not exceed 1 x 10^{-5} cc/s of tracer gas at atmospheric pressure when mounted in mounting hole specified on figure 1.

Leakage (pressurized connectors): Not applicable.

Insulation resistance: Method 302, test condition B, MIL-STD-202. 5,000 megohms minimum.

Contact resistance: In milliohms maximum.

	Initial	After environment
Center contact - - - - - - -	4.4	4.9
Outer contact: -0001 & -0002- - - - - - -	0.2	Not applicable

Resistance to test prod damage: Not applicable.

Corrosion (salt spray): Method 101, test condition B, MIL-STD-202.

Voltage standing wave ratio (VSWR): Not applicable.

Dielectric withstanding voltage: Method 301 of MIL-STD-202. 1,500 volts rms at sea level.

Corona level: Not applicable.

RF high potential withstanding voltage:

Voltage and frequency - 1,000 volts rms at 5 MHz.

Leakage current - Not applicable.

Contact durability:

Insertion and withdrawal force 500 cycles minimum at 12 cycles/min maximum. The mating force shall meet the mating characteristics requirements.

Vibration, high frequency: Method 204, test condition B, MIL-STD-202. No discontinuities.

Shock: Method 202 of MIL-STD-202.

Acceleration - 50 G's at 7 milliseconds. No discontinuities.

Thermal shock: Method 107, test condition C, except low temperature shall be -55°C.

Moisture resistance: Method 106 of MIL-STD-202. No measurements at high humidity. Insulation resistance shall be at least 200 megohms within 5 minutes after removal from humidity. Dielectric withstanding voltage shall be met.

Cable retention force: Not applicable.

RF leakage: Not applicable.

Insertion loss: Not applicable.

Part number: M39012/24- (dash number from table I).

Revision letters are not used to denote changes due to the extensiveness of the changes.

Custodians:
Army - CR
Navy - EC
Air Force - 85

Review activities:
Army - AR, MI
Air Force - 11, 17
DLA - ES

User activities:
Army - AT, AV, ME
Navy - AS, OS
Air Force - 19

Agent:
DLA - ES

Preparing activity:
Army - CR

(Project 5935-3453)

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